LICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



10/542923

(43) International Publication Date 19 August 2004 (19.08.2004)

PCT

(10) International Publication Number WO 2004/070978 A3

(51) International Patent Classification7: 10/12

H04B 10/04,

(21) International Application Number:

PCT/IL2004/000091

- (22) International Filing Date: 29 January 2004 (29.01.2004)
- (25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

60/443,174

29 January 2003 (29.01.2003) US

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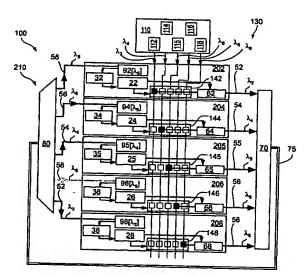
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

## Published:

- with international search report
- before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

[Continued on next page]

(54) Title: LASER POWER GRID



(57) Abstract: A laser power grid for operation with data networks, employs WDM, and incorporates wavelength addressing. The laser power grid (100) includes a laser power supply station (110), comprising a plurality of continuous-work laser sources (112, 114, 115, 116, 118), a laser distribution grid (130), for distributing light propagations of different wavelengths throughout a data network, and an optical switching network (142, 144, 145, 146, 148) coupled to the laser distribution grid, for locally turning the laser power on, where it is needed. The laser power grid replaces systems of tunable lasers. It is considerably faster and cheaper than systems of tunable lasers and produces less waste heat within the data network surroundings. The laser power grid incorporates parallel fast optical communication in complex multi-node communication and computer networks and enables the implementation of burst switching and packet switching by wavelength addressing.

/070978 A3 Ⅲ



(88) Date of publication of the international search report: 10 February 2005

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PCT/IL04/00091

A. CLASSIFICATION OF SUBJECT MATTER			
IPC(7) : H04B 10/04, 10/12			
US CL : 398/200,201			
According to International Patent Classification (IPC) or to both national classification and IPC			
B. FIELDS SEARCHED			
Minimum documentation searched (classification system followed by classification symbols) U.S.: 398/200,201			
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched			
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C. DOCUMENTS CONSIDERED TO BE RELEVANT			
Category *	Citation of document, with indication, where a	ppropriate, of the relevant passages	Relevant to claim No.
Y	US 5,999,291 A (ANDERSON) 07 December 1999	9 (07.12.1999), FIG. 1.	1-12,43
A			13-39,42
Y	US 2002/0085594 A1 (PEZESHKI et al) 04 July 2	002 (04.07.2002), FIG. 2.	1-12,43
A			13-39,42
Y	WO 00/02098 A1 (AGRANAT et al) 13 January 2000 (13.01.2000), FIG. 1.		5-6
Y	US 2002/0159688 A1 (KIM et al) 31 October 2002 (31.10.2002), FIG. 10.		8-9,43
Y	US 6,501,866 B2 (THOMAS) 31 December 2002 (31.12.2002), FIG. 6.		12
Y	US 6,141,126 A (LAHAT et al) 31 October 2000 (31.10.2000), FIG. 1.		40-41
Y	US 6,411,418 B1 (DERI et al) 25 June 2002 (25.06.2002), FIG. 2.		40-41
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Date of the actual completion of the international search		Date of mailing of the international sear 17 DEC 2004	ch report
18 November 2004 (18.11.2004)  Name and mailing address of the ISA/US  A			
Mail Stop PCT, Attn: ISA/US		Audionzed officer ///	Zanar
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Form PCT/ISA/210 (second sheet) (January 2004)